AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) ~~Method~~ A method for production of single-layer thermochromic polymer layers by means of extrusion in which at least one colourant, and optionally ~~if necessary~~ a further additive or additives ~~such as~~ selected from the group consisting of melting agents ~~and/or~~ and developers, is added to a polymer at the beginning of the extrusion process and is extruded to form the thermochromic polymer layer.

2. (Currently Amended) ~~Method~~ The method according to claim 1, ~~characterised in that as polymer,~~ wherein the polymer is selected from the group consisting of polyethylene, polypropylene, polyester, polyamide, ~~and/or~~ and acrylonitrile-butadiene-styrene-copolymer ~~is used~~ and combinations thereof.

3. (Currently Amended) ~~Method~~ The method according to ~~one of the claims 1 or 2, characterised in that as colourants,~~ claim 1, wherein the colourants are selected from the group consisting of pyridinium phenolate betaines, sulphophthalein structures, Reichardt colourants, triphenylmethane colourants, pyranines, indicator colourants, flouran colourants, and ~~or~~ azo pigments ~~are used~~.

4. (Currently Amended) ~~Method~~ The method according to ~~one of the claims 1 to 4,characterised in that as melting agent,~~ claim 1, wherein the melting agent is selected from the group consisting of octadecanol, dodecanol, hydroxylic acids and ~~and/or~~ 1-hexadecanol and combinations thereof. ~~is used.~~

5. (Currently Amended) ~~Method~~ The method according to ~~one of the claims 1 to 4, characterised in that as developers,~~ claim 1, wherein the developer is selected from the group consisting of 2,2'-bis(4-hydroxyphenyl)propane, 2,2'-bis(4-hydroxyphenyl)sulphone and ~~and/or~~ gallic acid dodecyl ester and combinations thereof ~~is used~~.

6. (Currently Amended) ~~Method~~ The method according to ~~one of the claims 1 to 5,~~ claim 1, wherein ~~characterised in that~~ the colourant is added to the polymer in ~~the~~ a supply funnel of the extrusion process.

7. (Currently Amended) ~~Method~~ The method according to ~~one of the claims 1 to 6,~~ claim 1, wherein ~~characterised in that~~ the colourant, the polymer and ~~if necessary~~ optionally further additives are ~~used~~ provided in the form of a master batch.

8. (Currently Amended) ~~Thermochromic~~ A thermochromic polymer layer which can be produced according to the method according to ~~one of the claims 1 to 7~~ claim 1.

9. (Currently Amended) ~~Polymer~~ The polymer layer according to claim 8, wherein ~~characterised in that~~ a reversible colour switching is effected in a wide temperature range of ΔT from 1 to 25°C.

10. (Currently Amended) ~~Polymer~~ The polymer layer according to claim 8, wherein ~~characterised in that~~ a reversible colour switching is effected in a narrow temperature range of ΔT from 1 to 2°C.

11. (Currently Amended) ~~Polymer~~ The polymer layer according to ~~one of the claims 8 to 10~~, claim 8, wherein ~~characterised in that~~ the colour switching is accompanied by a changed translucence behaviour.

12. (Currently Amended) ~~Polymer~~ The polymer layer according to ~~one of the claims 8 to 11,~~ claim 8, wherein ~~characterised in that~~ the layer has a layer thickness of 1 µm to 10 cm.

13. (Currently Amended) ~~Polymer~~ The polymer layer according to claim 12, wherein ~~characterised in that~~ the layer thickness is from 1 µm to 1 mm.

14. (Currently Amended) ~~Polymer~~ The polymer layer according to claim 12, ~~or 13,~~ wherein ~~characterised in that~~ the polymer layer is a polymer film.

15. (Currently Amended) ~~Multilayer~~ A multilayer layer composite system containing at least one thermochromic polymer layer according to claim 8 ~~one of the claims 8 to 14~~ and at least one further film.

16. (New) The method according to claim 2, wherein the colourants are selected from the group consisting of pyridinium phenolate betaines, sulphophthalein structures, Reichardt colourants, triphenylmethane colourants, pyranines, indicator colourants, flouran colourants, and azo pigments.

17. (New) The method according to claim 2, wherein the melting agent is selected from the group consisting of octadecanol, dodecanol, hydroxylic acids and 1-hexadecanol and combinations thereof.

18. (New) The method according to claim 2, wherein the developer is selected from the group consisting of 2,2'-bis(4-hydroxyphenyl)propane, 2,2'-bis(4-hydroxyphenyl)sulphone and gallic acid dodecyl ester and combinations thereof.

19. (New) The method according to claim 2, wherein the colourant is added to the polymer in a supply funnel of the extrusion process.

20. (New) The method according to claim 2, wherein the colourant, the polymer and optionally further additives are provided in the form of a master batch.